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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/971,097	10/03/2001	John Wallner	06979-0013	2124
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SoCAL IP LAW GROUP LLP 310 N. WESTLAKE BLVD. STE 120 WESTLAKE VILLAGE, CA 91362			HOM, SHICK C	
			ART UNIT	PAPER NUMBER
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DATE MAILED: 05/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/971,097	Applicant(s) WALLNER ET AL.	
	Examiner Shick C Hom	Art Unit 2666	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: in page 3 of the specification line 14 delete "source ports 10 numbered 0 through 64" and insert ---source ports 11 numbered 0 through 63---, in line 15 delete "ports 10" and insert ---ports 11---, see Fig. 3. Appropriate correction is required.

Claim Objections

2. Claims 1-10 are objected to because of the following informalities: in claim 1 line 6, delete typo "a said ingress source port" and insert ---said ingress source port---. In claim 1 line 10 delete "said input source port" and insert ---said ingress source port--- as in claim 1 line 3, for consistency. In claim 2 line 6, delete "a said ingress source port" and insert ---one of said ingress source ports---. In claim 2 line 7, delete "said data packet" and insert ---each of said data packets---. In claim 2 line 9 delete "a said source port" and insert ---one of said ingress source ports---. Claims 3-10 are objected to because they depend from objected claim 1. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1 lines 10, 13 which recite "said input source port" and "said source outputs" lacks clear antecedent basis because no source outputs have been previously recited in the claim and therefore the limitation is not clearly understood; further it is not clear as to whether they're reciting ---said ingress source port--- and ---said ingress source port outputs---, respectively. In claim 2 lines 10-11 which recite "the next available SE" lacks clear antecedent basis. In claim 5 line 2 which recite "said switching means" lacks clear antecedent basis. Claims 3-4, and 6-10 are rejected under 35 U.S.C. 112, second paragraph because they depend from rejected claim 1.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-4 and 7-8 rejected under 35 U.S.C. 102(b) as being anticipated by Fischer et al. (5,317,561).

Regarding claim 1:

Fischer et al. disclose the switching apparatus operating at a significantly higher data rate than switching elements (SEs) which form a switching fabric and operate at a lower data rate said SEs routing data from at least one ingress source port, which receives data at said higher data rate, to egress destination ports said data being grouped in data packets having a uniform or variable plurality of digital bytes (see abstract which recite the switching equipment switching cell stream that has a transport bit rate higher than the bit rate of the switching elements of the switching equipment and col. 2 lines 14-17 which recite the message cells distributed over the switching network inputs being uniform clearly reads on the data packets having a uniform plurality of digital bytes) said apparatus comprising: a said ingress source port including means for receiving successive data packets at said higher rate and for transmitting data via a plurality of output ports at said lower rate to said SEs; a sequential array of low data rate SEs

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each having a plurality of input ports individually connected to each said output port of said input source port said SEs and source port including means for switching source output ports successively from one SE to another available SE in response to a data packet event whereby the effective data rate from said source outputs to said SEs is at said higher data rate (see Figs. 1 and 2 which show the sequential array of switching elements and col. 4 lines 1-19 which recite the adaptation and distributor means for distributing the message cells having rate that exceeds the rate of the switching element four-fold, e.g. 600 Mbit/s, into four switching elements of lower rate, e.g. 150 Mbit/s, so that the effective rate is that of the higher data rate, i.e. 600 Mbit/s).

Regarding claim 2:

Fischer et al. disclose the method of routing data via switching elements (SEs) from ingress source ports which receive data at a significantly higher data rate to egress destination ports, said SEs operating at a lower data rate, said data being grouped in data packets (see abstract which recite the switching equipment switching cell stream that has a transport bit rate higher than the bit rate of the switching elements of the switching equipment and col. 2 lines 14-17 which recite the message cells being cyclically distributed over the switching

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network inputs to yield an uniform distribution clearly reads on the data being grouped in data packets) said method comprising the following steps: providing a plurality of said SEs in an array which operate at said lower data rate for receiving complete data packets from a said ingress source port and in response to header information-carried by said data packet routing such packet to a selected egress destination port (see col. 2 lines 38-47 which recite the cells having information attached to them that indicates the modules via which the cells are through-connected to the respective switching network output clearly reads on the header information-carried by the data packet for routing): a said source port receiving successive data packets at said high rate and sequentially transferring each received data packet at said lower rate to the next available SE whereby the effective throughput of data is at said higher rate and a complete data packet is transmitted through one serial link (see Figs. 1 and 2 which show the sequential array of switching elements; col. 4 lines 1-19 which recite the adaptation and distributor means for distributing the message cells having rate that exceeds the rate of the switching element four-fold, e.g. 600 Mbit/s, into four switching elements of lower rate, e.g. 150 Mbit/s, so that the effective rate is that of the higher data rate, i.e. 600 Mbit/s; and col. 2 lines 18-23

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which recite the cells transported over the connection being successive clearly reads on the serial link).

Regarding claims 3, 7:

Fischer et al. disclose where the ratio of high to low data rates is four to one and where a minimum of four SEs per source port is provided and where the number of SEs is proportional to the ratio of high to low data rates (col. 4 lines 1-19 which recite the adaptation and distributor means for distributing the message cells having rate that exceeds the rate of the switching element four-fold, e.g. 600 Mbit/s, into four switching elements of lower rate, e.g. 150 Mbit/s, so that the effective rate is that of the higher data rate, i.e. 600 Mbit/s).

Regarding claim 4 :

Fischer et al. disclose where a minimum of two SEs per source port is provided (see Figs. 1 and 2 which show a minimum of two SEs per port).

Regarding claim 8:

Fischer et al. disclose where the number of SEs is upwardly scalable to accommodate greater data input (see col. 1 lines 18-43 which recite the modularly structured switching network clearly reads on upwardly scalable SEs).

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Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fischer et al. (5,317,561) in view of Abu-Amara et al. (6,026,092).

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Regarding claims 5, 6:

For claims 5, 6 Fischer et al. disclose the switching apparatus described in paragraph 5 of this office action. Fischer et al. disclose all the subject matter of the claimed invention with the exception of where two additional SEs provide for automatic redundancy said switching means being responsive to the failure of an existing SE and where two additional SEs provide additional bandwidth for overhead.

Abu-Amara et al. from the same or similar fields of endeavor teach that it is known to provide additional SEs for automatic redundancy said switching means being responsive to the failure of an existing SE and where two additional SEs provide additional bandwidth for overhead (see col. 26 lines 49-57 which recite the plurality of spare switching elements being activated in response to a failure of a switching element). Thus, it would have been obvious to the person having ordinary skill in the art at the time the invention was made to provide additional SEs for automatic redundancy said switching means being responsive to the failure of an existing SE and where two additional SEs provide additional bandwidth for overhead as taught by Abu-Amara et al. in the switching apparatus of Fischer et al. The additional SEs for automatic redundancy said switching means being responsive to the failure of an existing

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SE can be implemented by connecting additional SEs for automatic redundancy responsive to the failure of an existing SE and where two additional SEs provide additional bandwidth for overhead of Abu-Amara et al. to the SE array of Fischer et al. The motivation for providing additional SEs for automatic redundancy said switching means being responsive to the failure of an existing SE and where two additional SEs provide additional bandwidth for overhead as taught by Abu-Amara et al. in the switching apparatus of Fischer et al. being that it provides more reliability and more bandwidth in case of failure for the apparatus since the apparatus can provide for automatic redundancy if an existing SE fails and prevent lost of data with the additional bandwidth.

9. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fischer et al. (5,317,561) in view of Li (2001/0053157).

Regarding claims 9, 10:

For claims 9-10, Fischer et al. disclose the switching apparatus described in paragraph 5 of this office action. Fischer et al. disclose all the subject matter of the claimed invention with the exception of where said data packet event is

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the end of one data packet and the beginning of another and where each data packet is very large in comparison to the number of bytes required for an attached header which identifies such data packet along with its ultimate destination whereby overhead is minimized.

Li from the same or similar fields of endeavor teach that it is known to provide where said data packet event is the end of one data packet and the beginning of another and where each data packet is very large in comparison to the number of bytes required for an attached header which identifies such data packet along with its ultimate destination whereby overhead is minimized (see paragraph 0036 which recite the switching element being unlatched and triggered including use of the frame header at the beginning of the frame clearly reads on the packet event being the end of one packet and the beginning of another packet and the use of an attached header; further Fig. 2 shows payload being large in comparison to the header). Thus, it would have been obvious to the person having ordinary skill in the art at the time the invention was made to provide where said data packet event is the end of one data packet and the beginning of another and where each data packet is very large in comparison to the number of bytes required for an attached header which identifies such data packet along with its ultimate destination

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whereby overhead is minimized as taught by Li in the switching apparatus of Fischer et al. The data packet event being the end of one data packet and the beginning of another and where each data packet being very large in comparison to the number of bytes required for an attached header which identifies such data packet along with its ultimate destination whereby overhead is minimized can be implemented by using the packet format in the switching apparatus of Li in Fischer et al. The motivation for providing where said data packet event is the end of one data packet and the beginning of another and where each data packet is very large in comparison to the number of bytes required for an attached header which identifies such data packet along with its ultimate destination whereby overhead is minimized as taught by Li in the switching apparatus of Fischer et al. being that it provides more efficiency for the switching apparatus since the switching apparatus can switch the entire packet with the header and beginning indicator to minimized overhead in the switching apparatus of Fischer et al.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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George discloses high performance switch fabric element and switch systems.

Holender discloses high-speed optical data switching system.

Yang et al. disclose distribution network switch for very large gigabit switching architecture.


11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shick C Hom whose telephone number is 571-272-3173. The examiner can normally be reached on Monday to Friday with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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